

Competitive Landscape

Computers

- **China Mobile** launches 3G cooperation with 17 PC vendors including **HP**, **Dell** and **Lenovo**
- **Acer**, Dell and Lenovo among 14 vendors selected for China Rural PC programme

In H109, PC vendors took advantage of new channels amid the challenging trading conditions associated with the global economic slowdown. The launch of 3G mobile services in China was a key driver behind rising sales of netbooks, the main PC segment growth area in 2009. China Mobile, which launched its 3G service based on the domestic TD-SCDMA technology standard, has announced co-operations with 17 vendors including HP, Dell and Lenovo.

China Mobile is offering its subscribers a choice of 27 models of TD Netbooks. In some areas, such as Chongqing in Sichuan province, local China Mobile subsidiaries were in talks with PC makers such as HP about making netbooks available for a sub-CNY1,000 price point. The first TD Netbooks were available in Shanghai in late March in branches of the **Suning** electronics chain. China Mobile launched its national offer in April 2009 with seven PC makers including HP, Dell, Lenovo, **Haier** and **Samsung**.

Meanwhile, Acer, Dell and Lenovo were among 14 vendors selected by the Chinese government as designated suppliers for its subsidised computers programme that was launched in February 2009. The programme is intended to raise computer ownership among residents of rural China. The slowdown in the PC market towards the end of 2008 had already enhanced vendor focus on rural areas and lower-tier cities.

While the results of the government tender were good news for global vendors Acer and Dell, there was disappointment for seven unsuccessful bidders, including **Ben-Q** and **Asustek**. In addition to boosting PC ownership in the countryside, the government programme was intended as a stimulus package to help the domestic electronics industry. Eleven of the selected vendors were Chinese, including the market leader Lenovo as well as **TCL**, **Manjiang**, **Founder**, Haier, **Inspur**, **Malata**, **Hasee**, **Tsinghua Tongfang**, **Southwest Computer Sanshan Tianjiao** and **Great Wall**.

With a significant pick-up in the PC market in Q209, vendors expected the SME segment to provide more opportunities in the second half of the year. US PC giant Dell said that it would devote more resources to China's SME market, considering that SMEs would be one of the first segments to emerge from recession. SMEs account for 25% of Dell's revenues in China and the company will take various measures to target them, including more advertising and new products launches.

PC market leader Lenovo returned to growth in Q209, following a series of disappointing quarterly results. In Q209, Lenovo shipped 5.757mn units, up 2.9% on the same period of the previous year, with much of the growth driven by China. In the following quarter, Lenovo further strengthened its position in the Chinese market by achieving a market-leading share of 29.4% and growing 0.1% faster than the market, according to the company.

Domestic vendors dominate the desktop PC segment, with Lenovo continuing to be the market leader in both desktop and notebook PC segments. Over the past few years, Lenovo has spearheaded the assault on the rural market and in face of the global economic downturn, the company will intensify its efforts, which will be aided by its selection as a vendor for the government's rural computer programme. Lenovo has said that it aims to sell 5mn computers in rural areas, establish 700 county-level sales and service outlets and cover 320,000 villages across the country.

To this end, Lenovo will establish 700 new county-level stores in the next three years. Lenovo will introduce 15 new models specifically designed for the rural market. Lenovo and other vendors have tailored their marketing focus to the different priorities of rural Chinese. Lenovo, for example, has started marketing computers in rural areas as betrothal gifts, traditionally big-ticket items, using slogans such as 'Buy a Lenovo PC, Be a Happy Bride.'

HP has also been steadily expanding its sales network in rural China over the past couple of years. In 2009 HP said that it would focus on lower-cost affordable computers, including netbooks and PCs for rural inhabitants, to boost its market share in China. HP's market share was on the rise in H109, reaching around 14% in the first half of the year according to market research firm IDC, nearly triple HP China's 2005 market share of 5%.

The company now has 7,000 stores and 10,000 resale partners in China. In 2008, HP revealed that it would build a new plant in Chongqing, which will manufacture both notebooks and desktops. The location of the plant, in China's south western Sichuan province, is a reflection that rising wages and a strong yuan have weakened China's cost-competitiveness in eastern coastal areas.

Meanwhile, Dell has around 6,000 stores and channel outlets in China and a market share of less than 10%. The company is investing heavily in China, and the push into lower-tier cities continued in 2009 after Dell had announced, in Q408, that it was to expand its sales outlet network to 1,200 Chinese cities. At this rate, Dell will soon mount a serious challenge to Lenovo and HP. Dell estimated that it would spend US\$70bn on procurement in China in 2009. In 2009, Dell had around 25 PC models in the rural computer subsidy programme, but its share of the proceeds was small.

Taiwanese company Acer said that it expected its sales in mainland China and Hong Kong to surge more than 50% in 2010. The company hopes to increase its market share in the mainland market to around

10%, helping it to overtake US rival Dell in third spot in the market. To achieve this, Acer will also lengthen battery life and strengthen its local sales force.

The rural market is expected to achieve a growth rate over the next few years of roughly double the national average. Since 2006, HP has participated in a 'Computer + Broadband' bundling offer in cooperation with **China Telecom**, offered in rural areas of Jiangsu province. Ever-cheaper notebooks and fierce competition have led to a strong downward trend in the price of desktops. With PC markets in large cities increasingly saturated, Lenovo has offered rural distributors products priced at CNY1,299-1,499. The Chinese market leader is also establishing 5,000 new marketing agencies to expand after-sales service to a maximum of 300,000 administrative villages. Lenovo will also carry out promotional campaigns in the townships.

Another current trend in the PC sector is a greater focus by global vendors in the Chinese market on the consumer segment. Lenovo has announced a target of growing its consumer PC business to 40% of total sales. Acer is hoping to leverage its new partnership with **Gateway**. Dell claimed early gains from its new China strategy of selling direct through retail electronics stores. Dell has now departed from its direct-sales model by selling through China's largest electronics store **GOME**. It also has an arrangement to sell desktops and notebooks at Suning – which is the second largest electronics chain in China.

Handsets

- Top three vendors have 67% volume sales market share in September 2009
- **Nokia** launches its first TD-SCDMA handset

Foreign handsets have seen their dominant position in the Chinese handset market increasingly challenged by local vendors. According to figures from China's Ministry of Commerce, the top three handset vendors in September 2009 were Nokia, Samsung and **Beijing Tianyu Langtong Communications Co.** The three vendors had a combined 67% share of volume sales. Nokia was in first place, with 44% of sales, while the other two had around 11% each. However, the next five places in the rankings were occupied by **Changhong**, Haier, Lenovo, **Konka** and **Huawei**: all Chinese companies.

The success of multinational brands in the China market was built largely on high-end handset offerings and brand appeal to a growing middle-class youth market. However, more recently, multinational vendors such as Nokia have focused their strategy predominantly on the low-end market. This has seen impressive results for vendors in mainly rural-led subscriber growth. Recently, Nokia unveiled a record deal to supply handsets worth US\$2.5bn to **China Postel**, China's largest mobile phone wholesaler. The order could represent more than 20mn phones.

Meanwhile, 17 brands were listed on the government's rural electronics devices subsidy programme for mobile handsets. The successful brands included Samsung, Nokia, Motorola and 14 others, all of which were eyeing a share of the big mobile phone market in China's rural regions.

In addition to rural subscribers, the other main growth segment being eyed by vendors was 3G, following the launch of 3G services in China. China Mobile, which has rolled out its service based on China's domestic TD-SCDMA standard, recently announced a US\$87.77mn fund to support handset and chip makers to develop TD-SCDMA terminals. The offer, which provides funds for development of either high-end or mass market handsets, attracted interest from both domestic and multinational vendors.

As of Q409, domestic vendors accounted for at least 55% of TD-SCDMA handset sales, with **ZTE** and **Coolpad**, along with Samsung, being the top three vendors in September. In September alone, vendors like Samsung, ZTE, and Lenovo launched a total of 10 new TD-SCDMA models, which were available to China Mobile subscribers.

In reality, the potential size of the China market – to say nothing of political considerations – has made it difficult for multinational vendors to avoid development of TD-SCDMA handsets. In October 2009, Nokia introduced its first handset for the China TD-SCDMA market. Nokia's decision to develop the handset had followed years of pressure from the Chinese government and from China Mobile. The Nokia 6788 smartphone was designed at Nokia's Beijing R&D facility, although some analysts saw it more as a political offering than a genuinely competitive model in the smartphone segment. The government welcomed Nokia's new phone, but called on the vendor to develop more TD-SCDMA models.

Meanwhile, in October 2009, **Apple's** iPhone received its official China launch by China Unicom, which became the only Chinese authorised distributor. However the reception for the launch was deemed lukewarm compared with the situation in many other markets, largely because of the widespread availability of pirated and grey market models, mostly smuggled from Hong Kong.

Meanwhile in H109, the government's relaxation of its previous ban on Wi-Fi technology sparked new product launches from vendors. Motorola China claimed that its WCDMA mobile phone, the A3100, had become the first Wi-Fi capable handset to gain a network access license from MIIT. In line with the government's requirement, the handset was also WAPI (China's domestic Wi-Fi standard equivalent) capable. Motorola said that it planned to launch more Wi-Fi and WAPI capable phones in the future. The initial China release of the iPhone had the Wi-Fi feature disabled, although China Unicom claimed that future batches would have Wi-Fi capability.

Multinational brands dominate domestic market shipments. In December 2008 the top five GSM handset vendors by China market shipment were Nokia, Samsung, Motorola, **Cosun & CECT** and Lenovo. Nokia shipped above 3mn GSM phones in December, while Samsung shipments were at around 1.8mn

units and Motorola below 1mn. Chinese companies Cosun & CECT and Lenovo were thought to be in the 400,000-450,000 shipments range.

In terms of CDMA handset sales, which increased their share of total shipments in 2008, Motorola, Samsung and LG are the leading vendors. In September 2009, CDMA handsets recorded strong sales of 2.77mn units, representing about 20% of the mobile market. Huawei sold 608,000 sets, which was enough to earn it fourth place in terms of volume, ahead of **Motorola** and **Sony Ericsson**.

In February 2009, Nokia and Samsung remained the top two vendors for GSM handsets shipments to distributors in China, with both vendors reporting y-o-y growth. Nokia shipped more than 4mn GSM handsets in China in that month, according to figures from Interfax, and Samsung around 1.4mn. However, other major GSM handset suppliers, including Motorola, as well as domestic giants such as Haier and Konka, all reported significant declines in shipments. In terms of CDMA handsets, Samsung and **LG** were reportedly on top, ahead of Chinese players **Hisense**, ZTE and Huawei, while Motorola had dropped out of the top five.

Foreign manufacturers also dominate the production of mobile handsets for export from China, with Nokia, Motorola, Sony Ericsson and Samsung accounting for above 70% of all handset exports last year. Domestic brands exported just 64mn phones, or 17% of the total. However, handset brands are catching up fast, and are adjusting their product lines in sync with different market features including product R&D, sales strategies and a variety of mobile handset types such as dual-mode, dual-standby mobile phones, stock mobile phones and navigation mobile phones.

3G may, however, be an opportunity for Chinese vendors to increase their share. In March 2009 **Tianyi Telecom Terminal Company**, a subsidiary of China Telecom, purchased 37 models of customised 3G cell phones. Chinese brands, including Coolpad and ZTE, accounted for two-thirds of the total, and foreign brands such as Samsung and Nokia for one-third. The competitiveness of Chinese handset vendors is illustrated by Huawei Technologies and ZTE, two other of the country's leading telecoms manufacturers. Huawei is aiming to double its handset production as it looks to overtake rival ZTE. The vendor announced it would set itself a target of 50mn units, up from the 20mn it produced last year. At present, Huawei outsources the production of its handsets to Thailand's **Cal-Comp Electronics** and Singapore-based **Flextronics**. A possible third production partner could be **Foxconn**, which is responsible for the iPhone. Huawei already has a working partnership with Foxconn's parent company, Taiwan's **Hon Jai Precision**, with the two vendors involved in network infrastructure manufacturing.

AV

- Domestic LCD TV brands achieve triple-digit growth in H109 thanks to government rural subsidy programme

- Samsung takes early lead in LED TV segment in 2009, but domestic brand compete with cheaper models.

In the key field of LCD TVs, Chinese vendors have moved increasingly to the forefront. In 2009, the top five LCD TV set vendors – Hisense, **Skyworth**, TCL, Konka and Changhong – were all Chinese brands. This represented a change from 2008 when Japanese vendors **Panasonic** and **Hitachi**, and South Korean companies Samsung and LG had featured among the market leaders.

The top five Chinese vendors all reported triple-digit growth in H109. The main driver of this domestic vendor growth was the government's rural home appliance subsidy programme, which boosted demand in secondary markets. Most of the new demand was for low-end products, rather than premium models. Chinese manufacturers have moved aggressively into the LCD TV segment in the last two years, with many announcing plans to manufacture LCD modules locally.

The best-performing foreign brand in 2009 was LG, which claimed in September 2009 to have raised the level of its Chinese sales by 48% y-o-y. However, such is the rapid market growth that LG said that its market share had still fallen by 1.7%, despite selling 450,000 LCD TV sets. In 2008, LG built a LCD TV production plant in Guangzhou, co-located with its existing LCD module plant and R&D centre. LG's module plant started mass production in December 2007 and has an annual production capacity of 8mn units, mostly for LCD TVs and monitors. LG has projected that annual production will reach 20mn units in 2010. The plant should help LG compete with lower logistics costs and a greater ability to respond to market demand. Market research firm **Display Search** estimated that LG had sixth place in the LCD TV segment in H109, ahead of Japanese giants **Sharp** and **Sony**, both of which had market shares of below 5%. Meanwhile, rival Korean vendor Samsung had an 11% share of China's LCD TV market in July 2009, according to the Xinhua news agency, ranking third behind Hisense and Skyworth Digital Holdings. Samsung's improved performance may be attributed to aggressive marketing.

Samsung has also claimed an early lead in the emerging LED TV market. It launched nine LED models in China in April 2009, helping to take a more than 40% share of the local market. Samsung also invested US\$90mn to build a LED production facility in Tianjin. Domestic manufacturers like Skyworth, Hisense and Konka struggled to play catch-up, but after a series of LED product launches in September, by Q409 around 80 models from foreign and domestic brands were on sale. Domestic brands cost around CNY5,000 less on average than equivalent foreign brand models, with a 42-inch Samsung LED TV set costing around CNY14,000, compared with less than 10,000 for a similar-sized Hisense model.

Meanwhile, Japanese company Sony has been strengthening its retail presence in China, by adding to its own-store network. In 2009, Sony increased by 50% the number of its local Digital Workshop stores, which offer Sony products including LCD TV sets and digital cameras. The company now has 145 of

these in China, in addition to 530 Vaio PC stores, and another 200 outlets selling its Cyber-shot and other digital cameras. Sony plants to add more stores in 2010.

Numerous vendors, including LG, Samsung and **Toshiba**, as well as Chinese entities such as TCL, Changhong and Skyworth, launched integrated digital TV sets in 2008, hoping to take advantage of the Beijing Olympics to promote their products. During the Olympics, the six Olympic host cities of Beijing, Tianjin, Shanghai, Shenyang, Qingdao and Qinhuangdao, as well as Guangzhou and Shenzhen, had free-to-air HEDTV channels, and a total of 37 cities were scheduled to have them by the end of that year. The average price of the sets, at more than CNY10,000, remained prohibitive to the mass market.

In 2009 most vendors continued to report sales growth in the TV category, sometimes in contrast to their performance in other markets. Skyworth's February global TV sales volume was down 27% y-o-y, but sales in mainland China were up by 250%, the third consecutive month that the Chinese and global trends had diverged.

Semiconductors

- **Qualcomm, Media Tek and TSMC** are well positioned for China 3G chip opportunity
- **Intel**, leader in China's semiconductor market with around 12%, said that it would step up investment in China this year

The Chinese semiconductor industry remains dominated by foreign integrated device manufacturers (IDMs), particularly in the higher end of the value chain. In effect there is a division, with foreign companies dominating IC testing and assembly, and Chinese domestic companies dominating discrete semiconductors assembly and testing.

Foreign companies dominate supply to the local market. Chinese-designed semiconductors accounted for only one-third of revenues in 2008, at around US\$28mn, while international companies accounted for roughly 90% of the manufacturing orders for China's leading foundries. While there are about 400 China fabless companies and IC design houses, no China semiconductor company ranks among the top 40 world suppliers in China.

According to the China Semiconductor Industry Association (CSIA), Intel, Samsung and **Hynix** generated the most revenues from Chinese sales of IC products in 2008. Foreign companies such as Intel, **Texas Instruments**, Hynix, Toshiba, Samsung, AMD, **Hynic**, **ST Microelectronics**, **NXP**, Qualcomm and **Freescale Semiconductor** regularly dominate the list of top semiconductor manufacturers in China, with the top 10 companies accounting for around 50% of the market. Intel is the leading company, with about 12.1% of the market.

China is a key strategic battleground in the fight by chip vendors to launch new processors to vitalise the market. In 2009, Intel said that it would step up marketing and investment initiatives in mainland China this year. The company revealed in October 2009 that it is to invest an additional US\$75mn in its Chengdu plant, bringing its total investment in Chengdu to US\$600mn. In February 2009, Intel announced the closure of its Shanghai chip and assembly plant and the shift of operations to Chengdu.

Intel is already the largest supplier of chips to mainland electronics manufacturers, and in the past 10 years, it has invested in more than 80 companies in mainland China and Hong Kong. Since its unveiling in 2007, Intel has been promoting its 'Atom' processor and working with partners in the Chinese industry chain to drive returns in the computing segment through development of new devices, particularly mobile internet devices. HP gave the category a boost when it announced that it would also enter the initiator laptop market.

Meanwhile, **AMD** recently sought to boost its standing compared to main rival Intel when it unveiled its 'Shanghai' chip quad-core processor in December 2008. The China-developed chip, the first with the name of a Chinese city, is intended to help AMD compete with Intel in the server and high-end PC sectors. HP has already started selling a workstation PC powered by the Shanghai processor.

The slump in global consumer electronics had an impact across the Chinese semiconductor industry, but SMIC and some other major industry players forecast an upturn in H209 based on prevailing global book to bill (BB) ratios, which measure the relationship between orders received and shipments. Wafer foundry **Grace Semiconductor Manufacturing Corp.** recorded an initial profit in Q309, becoming the first China-based IC foundry to do so in 2009.

In Q109 China's semiconductor industry association estimated that foundry capacity had been at around 60% since November. Following Intel's relocation of its Shanghai assembly and testing facilities to Chengdu, the situation may stimulate a trend for major chip manufacturers to relocate their Chinese production facilities to tier-two cities. China IC design is still primarily about 0.18 and 0.25 micron technologies, although the leading fabless companies have also developed 0.13 micron and 90nm technologies. The main target applications for local IC companies include wireless systems, DVD players, toys and gaming devices. Most Chinese fabless companies lack IP and patents, and are obliged to compete at the lower end of the consumer market with products like MP3 players and lower end mobile phones. Chinese IDMs have emerged, but lag technologically, tending to focus on power and discrete markets for consumer applications. Leading companies include **Wuxi China Resources, Huajing Microelectronics, Jilin Sinco Microelectronics, Shuzhai Nankje Group** and **Shenzhen SI Semiconductor**.

While IC design remains dominated by foreign companies, China has steadily increased its manufacturing capability and now has several foundries ranked among the top 10 in the world. These include SMIC,

HHNEC and **HJTV**. SMIC has revenues of nearly US\$2bn, while several other foundries have revenues in the hundreds of millions of US dollars.

Test and assembly is another area where Chinese firms have been increasing their strength, as foreign companies vacate and sell to Chinese firms. However, many multinationals still have test and assembly facilities in China, including AMD (processors/flash, Suzhou, established 2004), Toshiba (memory, Shanghai, established 2005), Intel (processors/flash/chipsets, Shanghai, established 2004), Samsung (memory, Suzhou, established 2003) and Hynic (memory, Wuxi, established 2005). There are also many Chinese firms among the 200 or so test and assembly firms in China.

Meanwhile, the Chinese 3G mobile standard TD-SCDMA represents an area of opportunity for international as well as Chinese vendors thanks to deployment by China Mobile, which is offering subsidies for handset manufacturers to develop TD-SCDMA models. In H209 Qualcomm announced that it was to offer TD-SCDMA chips in China within the next year. The market hopes to eventually win a high share of the Chinese market for TD-SCDMA chips.

Aside from Qualcomm, Media Tek and Taiwan Semiconductor Manufacturing Company (TSMC) are expected to be among the biggest winners in China's 3G chip market. MediaTek supplies WCDMA and TD-SCDMA chips. Meanwhile, TSMC is sole manufacturer for both Qualcomm and Media Tek's 3G chips and expects strong growth in 2010.

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